

WILDLIFE MANAGEMENT UNIT 2 - CACHE

Boundary Description

Cache, Rich, Weber, and Box Elder counties - Boundary begins at the Utah-Idaho state line and I-15; east on this state line to the Utah-Wyoming state line; south on this state line to Highway SR-16; north on SR-16 to Highway SR-39; west on SR-39 to Ant Flat Road; north on the Ant Flat Road to Highway SR-101 (at Hardware Ranch); west on SR-101 to Highway US89-91; south on US 89-91 to I-15; north on I-15 to the Utah-Idaho state line

The Wellsville Mountains, on the west side of the unit, is subunit 2a - Cache, Wellsville Mountains. Prior to 1993, the area was designated as Deer herd unit #4. A boundary description of subunit 2a follows.

WILDLIFE MANAGEMENT SUBUNIT 2A

Boundary Description

Cache and Box Elder counties - Boundary begins at Interstate 15 and Highway US-89 in Brigham City; north on I-15 to the Utah-Idaho state line; east on this state line to Highway SR-23; south on SR-23 to Highway US 89/91; west on US 89/91 to I-15.

Subunit 2a Description

Deer habitat on subunit 2a is concentrated on the Wellsville Mountains and their northern extension, Clarkston Mountain. The eastern half of the unit, mostly agricultural land in Cache Valley, is not used much by wintering deer. Most deer cross over to the west side of the mountains where winter range was estimated at 23,906 acres (King and Muir 1971). King and Muir (1971) also stated that the winter range was all in good condition. The acreage and condition of available winter range has undoubtedly declined in the past 25 years. The summer range, due to its inaccessibility and low livestock grazing pressure, is in good condition.

The Wellsville Mountains have remained relatively inaccessible because of the steep topography. Rising abruptly from the valley floor, the ridge of the Wellsville Mountains reaches over 9,300 feet in elevation. The rise of almost 5,000 feet in just 2½ miles, plus the presence of sheer rocky outcrops, produces very steep and rugged terrain. The high point on the unit is Box Elder Peak at an elevation of 9,372 feet. Clarkston Mountain is shorter in elevation and not quite as steep. Both mountain ranges are dissected by numerous canyons, although none support year-round flows. All of the intermittent streams eventually drain into the Bear River, some via the Logan and Malad Rivers. The Bear River flows between the two ranges through a rather narrow and now dammed gorge. Towns located in closest proximity to the winter range are Brigham City, Honeyville, Madsen, Deweyville, and Collinston. Approximately 58% of the winter range is private land (King and Muir 1971). The Forest Service controls the higher areas of the normal winter range and the State owns two small sections (8%). In severe winters, the acreage of available range is reduced to 9,414 acres, 61% less than is available during a normal winter. Almost all of the severe winter range is under private ownership. A majority of this is used for grazing and agriculture, but much more is being developed with roads and houses, especially in the extremely critical Coldwater Canyon area. The continuing loss of winter range results in increased depredation problems on adjacent agricultural lands. Complaints of deer damage now come from all along the western portion of the unit.

The upper limit for normal winter range is generally the 7,000 foot level. It drops to 6,000 feet in some canyons to exclude the north slopes, and reaches as low as 5,400 feet in Box Elder Canyon. The lower limit follows the 4,400-foot contour. In severe winters, the upper limits are usually between 6,000 and 6,500 feet.

Most deer which summer on the east side of the Wellsville Mountains, migrate to winter range on the west side each fall. Coldwater Canyon is the most notable concentration area. There is some migration from the Mantua-Willard herd unit. Most deer that winter on Clarkston Mountain, summer on the Caribou National Forest in Idaho.

Other big game species found on the Wellsville mountains include introduced Rocky Mountain bighorn sheep and a few elk. Neither species are very numerous, but they should be considered in management decisions, especially concerning grazing. Land development and associated habitat loss is still the most critical problem facing Wildlife Management Unit 2a.

Unit 2 Description

Overall, unit 2 can be divided into three main areas which are isolated to some extent from one another. The first part, described above, is the Wellsville subunit. The second is the Cache Valley area with its summer range on the Cache National Forest to the east. Big game summer on the forest and use the winter ranges in the canyons and upper benches of the valley. The third area is Rich County, which includes a vast area of private and public range land on the east side of the Cache National Forest, extending to the Wyoming state line. Prior to 1993, these three areas were managed as separate deer herd units. In 1993, these areas were combined into Wildlife Management Unit 2.

The majority of the deer range, along with the largest deer herd, are within the Cache County portion of the unit. Most of this herd summers at higher elevations on the Cache National Forest, west of the Wasatch range summit. The majority of the winter range is also on Forest Service land.

Most winter range in the Cache County portion is located from the base of the mountain to 7,000 feet. However, the south-facing slopes of Blacksmith Fork, Logan, Dry, Providence, and Millville canyons are also important. The lower winter range limits are restricted by the upper limits of the towns and cities of Cove, Richmond, Smithfield, Hyde Park, North Logan, Logan, Providence, Millville, Nibley, and Hyrum. These limits to the winter range also include the deer-proof fence above agricultural land between Hyrum and Logan. Between Hyde Park and the Idaho border, the lower third of the winter range is located on private land and is endangered by increased cultivation and subdivision developments. The DWR owns 16,139 acres in Blacksmith Fork Canyon and needs to acquire and manage an additional 13,361 acres in order to maintain the herd at acceptable levels (Mann 1985).

The Rich County portion of the Cache deer herd unit, located on the east face of the Wasatch Range, is topographically similar to the west face. However, the drainages of Swan Creek, Garden City Canyon, Jebo Canyon, Cottonwood Canyon, and Temple Canyon are not as deep as those on the west face. Elevation ranges between 5,900 feet at Bear Lake and 9,114 feet on Swan Peak. The southern two thirds of Rich County was part of Unit 5 prior to 1993. This area has now been added to unit 2. Randolph and Woodruff are the principle municipalities located in Rich County. These towns are located on a strip of private land along the Bear River. Much of the lower country is privately owned and is grazed or farmed. Estimates are that 74,560 acres (33%) of the winter range is private land (Jense et al. 1985). A much higher percentage of the severe winter range is private. The BLM owns a majority of the winter range, controlling much of the land in the central part of the unit and the Crawford Mountains to the east.

The upper limits of the winter range begin at about 8,000 feet at the Idaho border and gradually descend to 6,000 feet at Cottonwood Canyon. The lower limits generally follow the 6,000-foot contour. For a more complete description of the winter range limits see King and Muir (1971).

Big Game Trends

The current management objective is to maintain a target winter herd of 25,000 wintering deer and maintain a buck/doe ratio of 15 bucks to 100 does and a fawn/doe ratio of 86 fawns to 100 does. To meet this objective, a projected yearly harvest of about 3,300 bucks will be required. Antlerless deer harvest will be adjusted yearly to meet population objectives.

Current management objectives for elk are to maintain a target population of 2,300 wintering elk with a bull-to-cow ratio of 8 bulls to 100 cows. Fifty percent of the bulls are to be 2½ years of age or older.

Trend Study Description

A total of 29 study sites were established in the unit in 1984 and read again in 1990 and 1996. During the 1990 season, 5 new sites were added. All of these were reread in 1996 along with 5 additional new sites. Six study sites occur in subunit 2a, Wellsville Mountains. In 2001, 31 trend studies were reread, while 8 studies were suspended and will be reevaluated during the next rotation. All of the sites monitored in 2001 sample big game winter range.

SUMMARY

MANAGEMENT UNIT 2 - CACHE

Management unit 2 is large, covering the Wellsville Mountains, the Cache Valley, the Cache National Forest and the extensive rangeland around Woodruff, Randolph, and Bear Lake. Twelve trend studies sample winter ranges in the Wellsville subunit and along the lower winter ranges of the Cache Valley. A common trend on these sites is the poor condition of the herbaceous understories combined with high soil temperatures. Most of these sites support herbaceous understories which are dominated by annual brome grasses and weedy forbs. Annual grasses provide an average of 60% of the grass cover on these 12 study sites. Two sites, Green Canyon Enclosure and Broad Hollow, have low cover values for cheatgrass but are dominated by bulbous bluegrass (52% and 69% of the grass cover respectively). Many of the sites also show an increase in cheatgrass and a decline in Japanese brome between 1996 and 2001. These increasingly weedy understories are in some cases crowding out perennial grasses and limiting shrub reproduction. The increased dominance of annual grasses also increase the amounts of fine fuels which can carry a destructive wildfire.

One factor driving these trends is the high soil temperatures of these sites which average 71° F. With high soil temperatures, the soil profile dries out early in the season which gives winter annuals like cheatgrass a competitive advantage over more preferred perennial grasses. The average browse trend for these 12 winter range studies is stable (3.0) in 2001. The average herbaceous trend is 3.5 or between stable and slightly up. The improvement in the herbaceous understory trends comes primarily from a decline in cheatgrass and other annuals due to the dry conditions of 2001. Trend studies in the Wellsville subunit generally show light use by wildlife and improving browse trends.

Precipitation data from Logan and Richmond show an average of 18.3 inches of precipitation falls in the northern portion of the Cache Valley. From 1980 to 1986, precipitation was above normal averaging 26.3 inches during this 6-year period. A dry period followed between 1987 and 1990. From 1991 to 2000, dry conditions prevailed in 1992, 1994 and 2000, with above normal precipitation in 1991, 1993, and 1995-1998. Precipitation has been below normal during the spring of both 2000 and 2001.

Eleven trend studies sample winter ranges in Rich County. These sites have much lower soil temperatures and contain only small amounts of annual grasses. The average soil temperature of these sites is 58.6° F. The average browse trend is 3.1 or just above stable in 2001. The average herbaceous trend is also 3.1. Precipitation data from Laketown and Woodruff indicate above normal precipitation from 1980- 1987, followed by 3 years of drought, where only about half of the normal precipitation was received. Wet conditions prevailed during the next 8 years from 1991- 1999, with only 1992 being drier than normal. Precipitation was normal in Laketown in 2000, but only 67% of normal in Woodruff. In 2000, spring precipitation (April - June) was below normal for both sites. Spring precipitation (April - June) in 2001 was also poor averaging only 64% of normal at Laketown and 54% of normal at Woodruff.

The remaining higher elevation trend studies in the unit generally show stable browse and herbaceous trends. A summary table of trends on the unit follows.

TREND SUMMARY

	Category	1984	1990	1996	2001
High Creek 2-1	soil	est	3	5	3
	browse	est	3	3	2
	herbaceous understory	est	2	1	3
Mouth of Blacksmith Fork 2-2	soil	est	3	5	3
	browse	est	4	5	3
	herbaceous understory	est	1	1	2
Crow Mountain 2-4	soil	est	3	4	1
	browse	est	3	4	2
	herbaceous understory	est	4	1	3
Smithfield Dry Canyon 2-5	soil	est	3	5	susp
	browse	est	3	4	susp
	herbaceous understory	est	1	1	susp
Green Canyon Exclosure 2-6	soil			est	3
	browse			est	5
	herbaceous understory			est	3
Spawn Creek 2-7	soil	est	3	3	susp
	browse	est	3	3	susp
	herbaceous understory	est	4	3	susp
Millville Canyon 2-8	soil	est	3	4	susp
	browse	est	1	4	susp
	herbaceous understory	est	4	2	susp
Beirdneau 2-9	soil	est	3	3	3
	browse	est	3	3	3
	herbaceous understory	est	4	3	3
Broad Hollow 2-10	soil	est	3	4	susp
	browse	est	1	4	susp
	herbaceous understory	est	5	4	susp

1 = down, 2 = slightly down, 3 = stable, 4 = slightly up, 5 = up, est = established,
susp = suspended

	Category	1984	1990	1996	2001
Second Dam Blacksmith Fork 2-12	soil	est	2	5	3
	browse	est	3	2	2
	herbaceous understory	est	3	3	3
Hardware Plateau 2-13	soil	est	3	4	3
	browse	est	1	4	3
	herbaceous understory	est	4	1	3
Dry Canyon 2-14	soil	est	3	4	susp
	browse	est	3	1	susp
	herbaceous understory	est	2	1	susp
Lower Hodges Canyon 2-15	soil	est	3	5	3
	browse	est	4	3	2
	herbaceous understory	est	5	1	5
Garden City Canyon 2-16	soil	est	3	4	2
	browse	est	3	3	3
	herbaceous understory	est	3	3	4
Meadowville 2-17	soil	est	2	5	2
	browse	est	2	1	1
	herbaceous understory	est	4	3	4
Upper Hodges Canyon 2-18	soil	est	3	4	susp
	browse	est	5	3	susp
	herbaceous understory	est	4	4	susp
Right Fork Logan Canyon 2-19	soil		est	5	3
	browse		est	5	3
	herbaceous understory		est	3	3
Richmond WMA 2-20	soil		est	5	2
	browse		est	1	4
	herbaceous understory		est	1	4

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	Category	1984	1990	1996	2001
Swan Creek 2-21	soil		est	5	2
	browse		est	3	4
	herbaceous understory		est	2	4
Box Elder Canyon 2-22	soil	est	3	3	susp
	browse	est	1	1	susp
	herbaceous understory	est	1	5	susp
Flat Bottom Canyon 2-23	soil	est	1	5	2
	browse	est	1	1	1
	herbaceous understory	est	3	2	4
Calls Fort Canyon 2-24	soil	est	3	4	3
	browse	est	1	5	5
	herbaceous understory	est	3	3	4
Mouth of Two Jump Canyon 2-25	soil	est	3	4	3
	browse	est	1	4	2
	herbaceous understory	est	5	3	5
Wellsville Canyon 2-26	soil		est	4	3
	browse		est	3	3
	herbaceous understory		est	3	4
Lake Town Canyon 2-27	soil	est	2	5	2
	browse	est	1	3	3
	herbaceous understory	est	4	5	2
North Eden 2-28	soil	est	2	5	3
	browse	est	1	2	2
	herbaceous understory	est	5	2	3
Woodruff Creek 2-29	soil	est	3	2	3
	browse	est	3	1	3
	herbaceous understory	est	3	2	3

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	Category	1984	1990	1996	2001
State Line 2-30	soil	est	3	3	3
	browse	est	3	3	3
	herbaceous understory	est	3	3	3
South Crawford Mountains 2-31	soil	est	2	3	3
	browse	est	1	4	4
	herbaceous understory	est	2	3	3
Wood Pass 2-32	soil	est	3	3	2
	browse	est	3	5	3
	herbaceous understory	est	3	3	3
Braizer Canyon 2-33	soil	est	2	3	3
	browse	est	3	3	3
	herbaceous understory	est	2	4	3
Otter Creek 2-34	soil	est	2	3	3
	browse	est	2	3	3
	herbaceous understory	est	3	3	3
Higgin's Hollow 2-35	soil	est	2	3	4
	browse	est	3	4	3
	herbaceous understory	est	4	2	4
Woodruff Co-op 2-36	soil	est		5	3
	browse	est		3	3
	herbaceous understory	est		3	3
Rock Creek Riparian 2-37	soil			est	susp
	browse			est	susp
	herbaceous understory			est	susp
Twin Creeks 2-38	soil			est	3
	browse			est	3
	herbaceous understory			est	3

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	Category	1984	1990	1996	2001
Pole Hollow Spring 2-39	soil			est	3
	browse			est	3
	herbaceous understory			est	3
Warren Spring 2-40	soil			est	3
	browse			est	3
	herbaceous understory			est	3
Boundary Spring 2-41	soil			est	3
	browse			est	3
	herbaceous understory			est	3

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